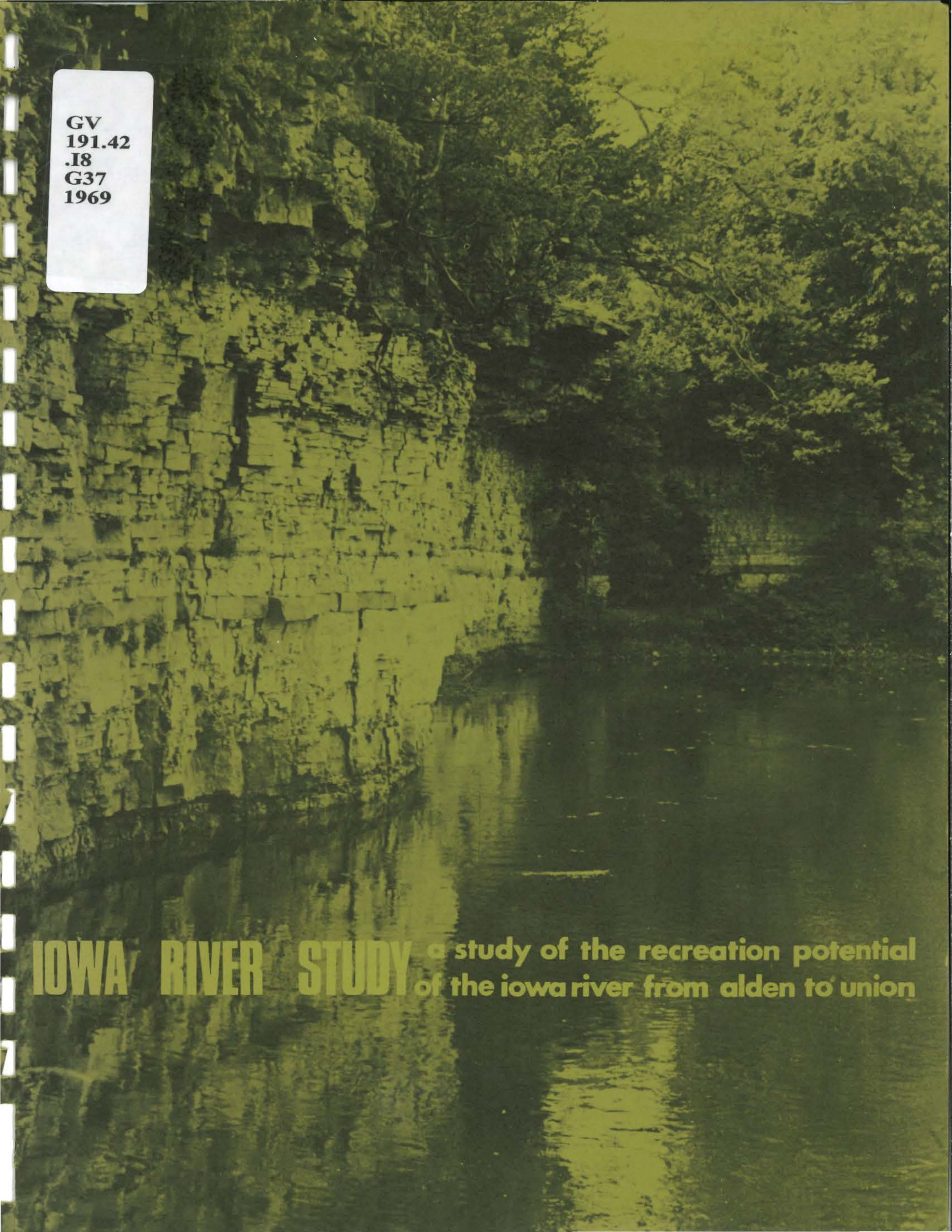

IOWA RIVER STUDY

a study of the recreation potential of the iowa river from alden to union

IOWA RIVER STUDY: A STUDY OF THE RECREATION POTENTIAL OF THE IOWA RIVER FROM ALDEN TO UNION, IOWA

by

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A terminal project submitted to the
graduate faculty in partial fulfillment of
the requirements for the degree of

MASTER OF LANDSCAPE ARCHITECTURE

Major Subject: Landscape Architecture

APPROVED:

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IOWA RIVER STUDY: A STUDY OF THE RECREATION POTENTIAL OF THE IOWA RIVER FROM ALDEN TO UNION, IOWA

SECTION ONE: INTRODUCTION

This study is an investigation of the recreational potential of the Iowa River and its corridor from Alden to Union, Iowa. Throughout this study the corridor is defined as the river, its floodplain, and its adjacent bluffs.

The objectives of the Iowa River Study are:

(1) To inventory and analyze the existing recreational facilities.

(2) To assess the fish and wildlife potential.

(3) To examine the potential recreational opportunities and determine where these opportunities might occur.

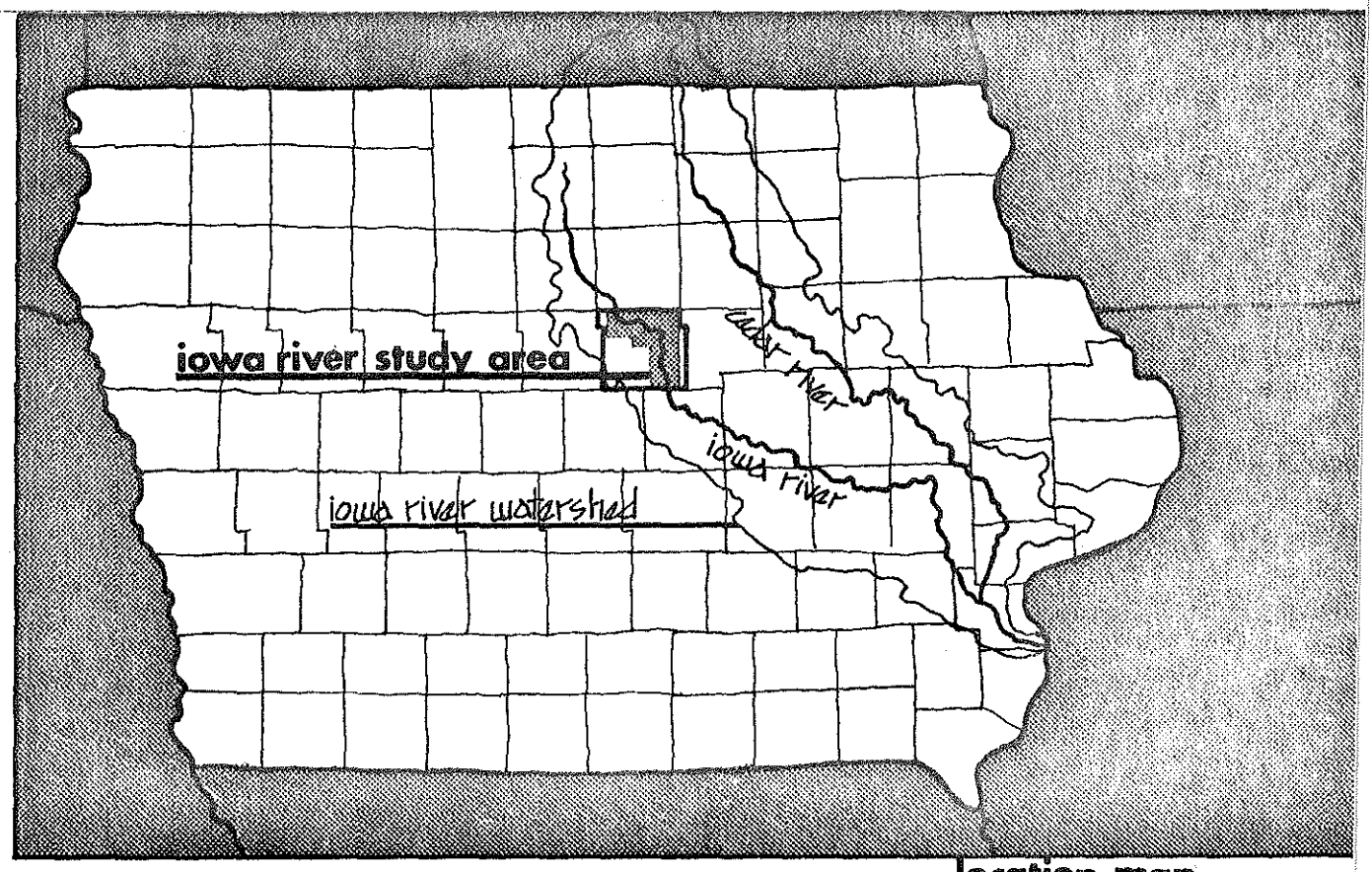
(4) To establish the amount of land needed to maintain and utilize the recreational resources.

(5) To recommend a priority system for recreational development.

The study area from Alden to Union covers about forty five river miles and was chosen because of the diversity and character that occur along it, as well as concern by local interest groups regarding its destiny.

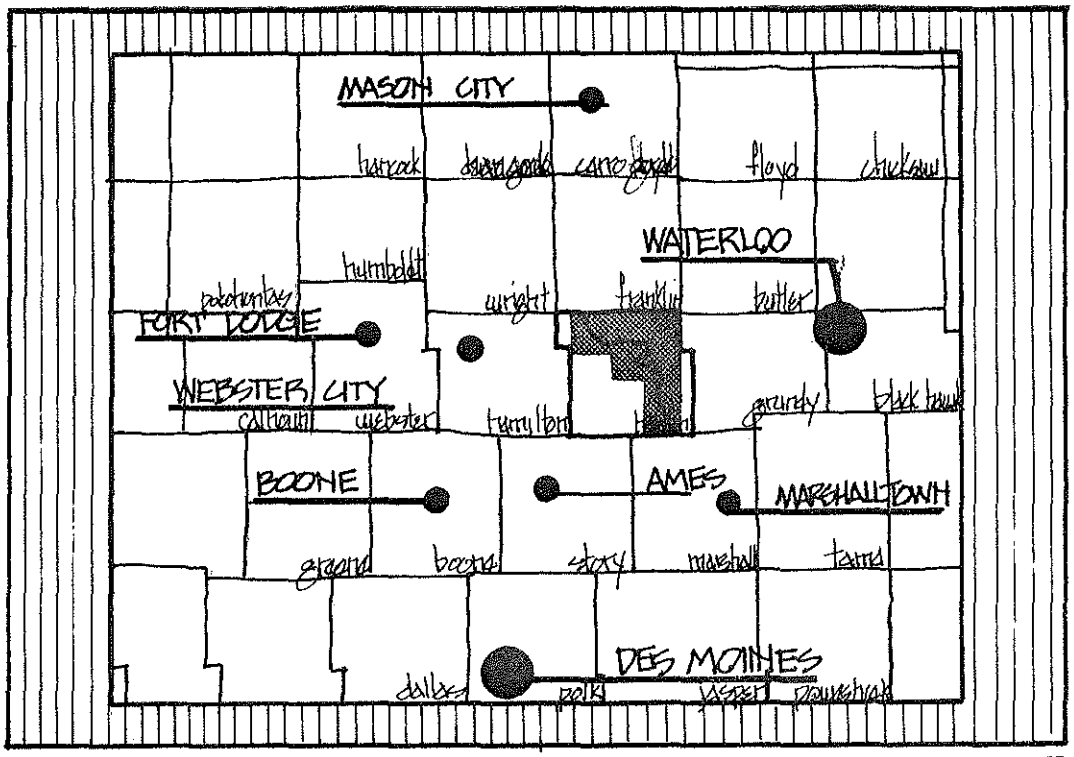
Before proceeding it is necessary to define recreation in regard to the out-of-doors. Recreation means different things to different people. Some people equate recreation and exercise. Others say recreation is simply being involved with that which is not routine. Still others say that it is relaxation and enjoyment of pleasant surroundings. Perhaps the best definition of recreation is that given by Anne Hobson Freeman, who states, " Recreation, of course, is not simply exercise. In its fullest sense it is a subtle sense-awakening, mind expanding, soul awakening experience that gives a relief from the solemn trivialities of life. " (A Place to Unwind.) Dr. Stainbrook, professor and chairman of the department of psychiatry at the University of Southern California School of Medicine in Los Angeles, says, " There is no better place for recreation in its fullest sense than the natural environment. Here man can find relief from the stresses of an increasingly crowded and artificial existence; he can temporarily reverse the ' denaturalization ' process that has taken place so quickly in the past few generations." (A Place to Unwind.)

Outdoor recreation is generally categorized as user-based or resource-based. User-based recreation facilities are located primarily on the basis of proximity to population centers, and serve an important part in satisfying day use needs of many people. User-based recreation areas are high use areas that generally, but not necessarily, satisfy the recreation needs other than contact with the natural environment. On the other hand, resource-based recreation facilities are selected primarily on the basis of resource location, eg.; timber, water, interesting topography, etc. Resource-based recreation areas have increasing importance in providing relief from the stresses of an increasingly artificial and crowded existence. With the realization of a growing population, increasing amounts of leisure time, more mobility, and more disposable income, it seems inevitable that people will seek additional recreational facilities and experiences. It is important, then, that the potential of The Iowa River Corridor be examined and that its resources be utilized in a manner that ensures that it remains in as natural a condition as possible.



location map

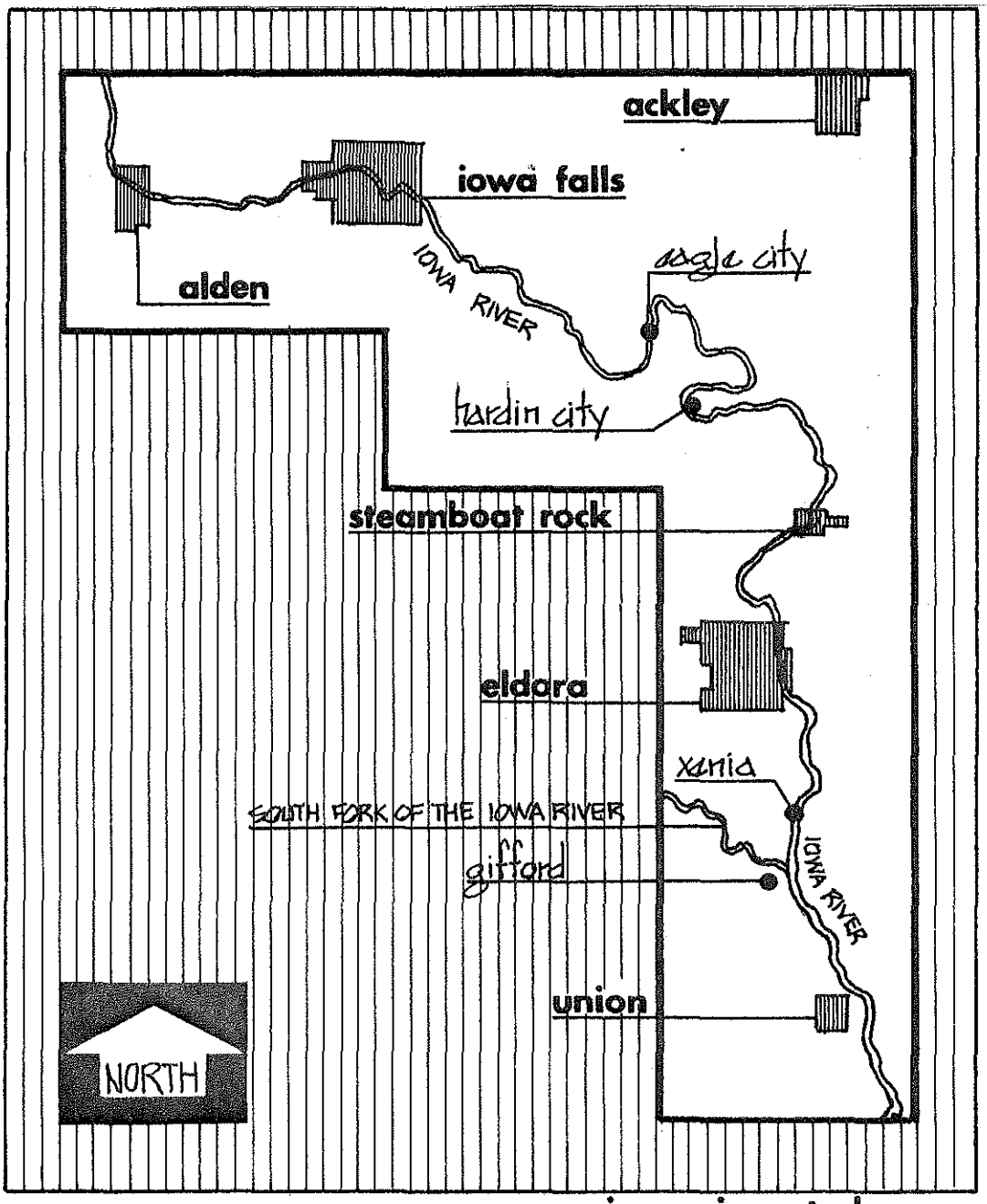
The Iowa River rises at an elevation of 1,215 feet above sea level in Crystal Lake, Hancock County, Iowa, which is located in the Wisconsin drift region in the northern part of Central Iowa. After flowing in a general southeasterly direction for a distance of three hundred and twenty nine miles in which it falls 685 feet, it discharges into the Mississippi River at a point twenty miles south of Muscatine, Iowa. Portions, or the whole of thirty four counties in Iowa and five counties in Minnesota are included in the twelve thousand six hundred and forty square miles of rich agricultural land which drains into this stream above its mouth.



area map

The portion of the river comprising the study area from Alden to Union, Iowa, lies totally within Hardin County. Briefly, the Iowa River flows through a more or less closed wall gorge from Alden to near its junction with the South Fork where it suddenly emerges into a broad valley with a well developed flood plain and relatively low gradients and other characteristics common to mature streams. Conversely, the Iowa River above the South Fork receives only short, poorly developed tributaries, and the river here has been engaged primarily in downcutting and has had little time to develop a floodplain.

The forty five mile stretch of river between Alden and Union, Iowa, included in the study area has many wooded slopes and offers a variety of features. The river



iowa river study area

varies in speed with many riffles occuring between Alden and the mouth of the South Fork where the river slows to a more sluggish pace. As can be seen from the following figures, the portion of the river included

in the study area is a relatively fast river in comparison with the rest of the stream.

There is 190 feet of change in elevation with an average gradient of 4.2 feet per mile in the forty five mile stretch between the upper limit of the study area at the Alden Dam and the lower limit of the study area at the Old Union Dam. This compares with a 379 foot change in elevation with an average gradient of 1.8 feet per mile in the distance of two hundred and eight miles between the Old Union Dam and the Mississippi. (The above information concerning general description was adapted from; Iowa River, Iowa and Minnesota. Army Corps of Engineers.)

SECTION TWO: INVENTORY OF FACTORS AFFECTING RECREATION IN STUDY AREA

NATURAL SYSTEMS

geology

The geology of the area is quite diverse with several geologic stages being represented in the study area. Visual evidence of these stages is readily apparent in different parts of the corridor. The systems and their stages which occur are:

(1) Carboniferous System
   a. Kinderhook Stage
   b. Des Moines Stage

(2) Pleistocene System
   a. Kansan Stage
   b. Iowan Stage
   c. Wisconsin Stage

The Carboniferous System in the study area is represented by two discordant series of beds which mark the earliest and latest deposits of that period. The first in its surface outcrops is essentially limestone, and belongs to the Mississippian series; while the second comprises ferruginous sandstone and shale and is referred to as the Des Moines series. The principal outcrops of the Mississippian series (Kinderhook) occur along the Iowa River from Eagle City to Alden. These beds are underlain with a thick deposit of shales believed to be continuous with the shales which outcrop along the Mississippi River at Burlington, Iowa.

Overlying the Kinderhook Stage of the Carboniferous System is the Des Moines Stage which is composed of coal measure sandstone and shale. These beds consist of an upper, heavy bedded, ferruginous sandstone which often presents conglomeratic to concretionary facies and is cross-bedded throughout, and lower shales which carry some coal and often contain highly calcareous, fossiliferous ledges. The sandstone reaches its maximum development in the vicinity of Eldora and Steamboat Rock where it attains a thickness of 80 feet.

The more recent Pleistocene deposits were laid down by three glaciers and interglacial wind deposits.

The first of these, the Kansan, covered the entire area of study, but is more or less obscured by later deposits. However, there are some outcrops occuring along the river which consist of an upper, thoroughly leached, strongly oxidized and weathered portion, which is usually a deep reddish-brown in color; and a non-weathered, non-leached lower portion, generally a shade of blue or green,

and is colloquially known as " hardpan. " Boulders are not particularly abundant, and those that do appear rarely exceed 2 feet in diameter and are typically green.

The second invasion, the Iowan, is typically developed in the vicinity of Eagle City with immense boulders of gray and red granites being found in great profusion along the river. The most marked characteristics of the Iowan are its almost monotonously level surface and its terrain of giant boulders.

Coinciding with the maximum extension of the Iowan glacier was a period of land depression and as a consequence sluggish drainage. During this period, wind and water cooperated in depositing a veneer of clays and silts outside of the ice margin. These loessial deposits consist of a structureless or indefinitely bedded mass of yellowish clay or sandy silt and usually contain numerous lime balls or concentrations. This loess is easily distinguished from the drift deposits by its even textured character and by the absence of pebbles and boulders. The best exposures in the basin are near the town of Union, west of the Iowa River. North of Union, the loess extends well down the hillsides and exceeds 20 feet in thickness.

Shortly after this loessial stage the Wisconsin ice front invaded the northern portion of the existing basin area south of Eldora.

The general surface of the Wisconsin has undergone very little modification since the retreat of the ice. The surface presents a pitted, hummocky appearance which is entirely independent of present drainage lines. Being little leached or oxidized, the drift material is markedly fresh.

The total thickness of the drift of the Wisconsin Stage is difficult to determine because these deposits have a tendency to sluff off. Artificial excavations show that in the vicinity of the courthouse in Eldora it is at least 40 feet thick, while in the bluffs near Hardin and Eagle cities a thickness up to 100 feet is present.
(The information in the above geology section was adapted from; Geology of Hardin County. pp. 245-305.

FORMATION OF THE IOWA RIVER.....

The present channel of the Iowa River above the confluence of the South Fork is evidently a superimposed stream. This suggests that the river is a youthful stream much younger than the South Fork. The present Iowa River was apparently formed after the Wisconsin glacier blocked the

path of the already existing South Fork. With these existing streams being blocked, drainage was evidently diverted and water flow occured along the Wisconsin ice front and eventually established a new stream. The newly formed stream proceeded to cut a channel, and after the glacier retreated, found itself caught between self-made barriers and unable to reopen and resume its old course which had been filled with glacial debris.

With the exception of the portion below the junction with the South Fork, the Iowa River has been busily engaged in downcutting and has had little time for the building of flood plains.

soils

The study area is dissected by two principal soil associations. The Clarion-Nicollet-Webster soil association covers the north half of the study area. The remainder of the study area lies in the Tama-Muscatine principal soil association.

In the Clarion-Nicollet-Webster soil association, the upland topography is nearly level to gently sloping, although, some strongly sloping areas are also present. Conspicuous features of this upland are low lying, nearly level plains which contain numerous saucer-like depressions (potholes), and low knobs and ridges. Nearly all of the potholes have been drained to allow more crop production. Stream dissection has not progressed very far in this association. Tributaries to the Iowa River in this area are short and v-shaped; indicating a youthful drainage system.

The parent material of the upland soils was primarily a friable, calcareous loam glacial till. In areas where glacial melt water moved, such as the low lying outwash plain and the Iowa River terraces, variable parent materials including sand, loamy materials over gravel, silty clay loam, and silty clay outwash materials, occur. Alluvial materials were also important parent materials in the bottomland areas and in the upland potholes.

This soil association is well suited to intensive production of corn and soybeans. This soil association does, however, have a tendency to contain excess lime, potholes, and sand and gravel substrata.

The soils in the remaining portion of the study are classified in the Tama-Muscatine soil association. The Tama-Muscatine association consists of a loess covered glacial plain. The thickness of the loess here is from 5 to 10 feet. The topography of these soils is generally level

to gently sloping. The gentle terrain and favorable physical and chemical properties give the Tama-Muscatine association a high production capacity.

Because of the texture of this loess soil, terracing and contouring are essential for adequate soil erosion control. (The information in the above soils section was adapted from; Principal Soils of Iowa. pp. 28-31, 66-67.)

vegetation

The first settlers in the study area found the river bottom and the adjacent slopes covered with trees. The upland area was covered by a vast expanse of prairie with a few trees occuring adjacent to the small drainage ways. A century ago, the tall grass prairie was the dominant vegetative type adjacent to the river corridor as well as the dominant vegetation of the Central United States.

Since that time, the prairie has completely vanished with the exception of a few relict plants occuring along the railroad right-of-ways, and an occassional isolated tract left because it was inaccessible to the farmer.

The vegetation which has replaced the prairie consists primarily of the agricultural crops, corn and soybeans.

Today, only a fraction of the original forest cover remains along the slopes and bottomlands of the Iowa River. Much of the original timber was cut for fuel and cleared to make room for crop production. The timber in the study area is dominated by oak and hickory, which occur on the slopes. Maples and lindens also occur in moist isolated pockets on the slopes. The dominant trees occuring on the flood plain are silver maple, boxelder, elm, cottonwood, and green ash; with black willows frequently reaching out over the river's edge.

A unique pocket of vegetation occurs in the vicinity of Steamboat Rock and Eldora. Native white pine and white birch (Betula papyrifera) dot the south shore of lower Pine Lake, and a relatively pure stand of white birch occurs on the east side of the river on a sandstone bluff approximately two miles south of Steamboat Rock.

This pocket of vegetation is unique because it is an isolated natural occurence of these species. It is the only natural occurence of these species in Central Iowa. The next closest occurence being in the northeastern corner of the state and in rare isolated pockets along the Mississippi River. The most frequent of these species occur-

ing in the study area is the white birch, while the least frequent is the yellow birch with only one being observed in the field.

Ecologists speculate that this pocket of vegetation was left undisturbed by the most recent glacier, and is an example of a once typical association in this area.

It is likely that the quantity of oak woods will diminish rapidly in the immediate corridor since a stave mill has recently begun operation in the middle of the area. The stave mill purchases several species of oaks from private landowners to be cut and used for the production of the staves for barrels.

Today, a significant number of timber areas still remain. They are either subject to flood, relatively inaccessible, or the slopes are too steep for cultivation.

water

All of the communities in the study area have wells which draw on the underground aquifers for human consumption. Surficial (alluvial) aquifers, as well as upper, middle, and lower bedrock aquifers, are present in the study area. All of the communities in the study area supply their municipal water needs by wells to the upper bedrock aquifer. The depth of this aquifer in the study area is approximately 200 feet. The middle and lower aquifers offer a potential supply to meet the ever increasing need and demand of the people of today as well as the population of tomorrow. (The Water Story of Central Iowa. passim.)

fish and wildlife

Today, the largest species of wildlife in the study area is the white-tail deer, while a century ago it was not uncommon to see buffalo, elk, bear, and wolves along this same river corridor. (Story of Hardin County.)

The river corridor provides habitat, a water supply, and the river serves as a food source. The majority of all wildlife in the study area are associated with the river system. The river corridor provides different things for different animals. Deer, as well as many smaller animals, utilize the corridor as a travel route and for protection. Many animals utilize the river as a water source, and some; the beaver and muskrat, utilize it as a home. Raccoon, mink, and badgers utilize it as a source of food. Squirrels are strongly associated with the river corridor since most of the nut trees occur on adjacent slopes. Waterfowl utilize the river as a travel route.

The river corridor is a complex ecosystem that lies in delicate balance. The elements in this system, water, wildlife, vegetation, etc., are dependent upon one another. It is imperative, then, that the system be protected from careless management by man if this system is to remain in balance.

The river also supports a complex system. The elements of this system, fish, algae, etc., are strongly dependent on one another. Of course, all of the elements are dependent on water, and in most cases relatively clean water.

By numbers, approximately 90 percent of the fish in the portion of the Iowa River comprising the study area are classified as rough fish which includes; carp, white sucker, and redhorse. There are, however, small populations of game fish which includes; northern pike, large mouth bass, small mouth bass, white creppies and catfish. (Inter Departmental Communications. State Conservation Commission.)

HUMAN IMPACT

archeology and history

In prehistoric times the Iowa River and its corridor served as a home and as a travel route for the Indians. The river corridor provided a source of water, food from abundant game along the river, fuel from the timber which occured primarily along the river system, and protection from natural elements. Evidence of occupation by Indians has been found in the form of burial mounds, projectile points, and flint chips. Conical burial mounds are present on the bluffs above the river in Pine Lake State Park, and three additional sites are recorded by archeologists. One, 13-HA-1, is a group of eleven linear mounds on the bluffs on the south side of the river in the northeast one quarter of section 6 of Clay township. These mounds are associated with the prehistoric Woodland Culture and are approximately 20 inches in height, 5 feet in width, and 70 feet in length. (Site Survey 13-HA-1. State Archeologist.) The other sites, 13-HA-101 and 13-HA-102, are located in section 15 of Union township. These sites probably represent the Woodland archeological complex dating about 1000 to 2000 years ago. (Site surveys and information from personal communication with Dr. Gradwohl, Iowa State University.) Undoubtedly, there are many additional sites which have not yet been recorded by archeologists. No systematic survey of archeological resources of the Iowa River Corridor in Hardin County has been undertaken.

The first settler in the study area was Mr. Greenberry Haggin, who in 1849, erected a log cabin in section 23 of Union township. Thriving settlements soon appeared at Steamboat Rock, Hardin City, and Alden. These flourished long before the railroad entered the territory.

When the first pioneers settled here they found an unbroken wilderness. The area was abundant with game. The forest supply along the river seemed inexhaustible, and the prairie stretched as far as the eye could see. (Story of Hardin County.)

The following information is given in segmented portions, since those elements of historic significance in relation to recreation and general background of the study area are difficult to tie together. These are only a few items of historical significance that may be an asset as a recreational resource. The scope of this study did not allow the time for a more detailed inventory and it is hoped that historical information can be pursued by concerned residents of the area in order that these elements be maintained as an educational resource.

(1) The Iowa Flouring Mill in Iowa Falls, Iowa, was erected in 1851. It was built from native limestone and was four and a half stories high. The mill originally had three central discharge water-wheels, and two run of burs. (Story of Hardin County.)

(2) The first public school was erected in the area in 1853, in a log building on section 21 of Eldora township. (Story Of Hardin County.)

(3) Nicholas Rice and Mr. Williamson built the first saw mill on the Iowa River above the present town of Steamboat Rock in the spring of 1853. (Story of Hardin County.)

(4) In 1855, Hardin City was one of the most flourishing towns in the North Central Iowa. Lewis Hayden erected a saw mill here in 1853, which was destroyed by fire in 1859. The site changed ownership and a new mill was erected at a cost of $6,000. In 1865, this mill was sold for $21,000. Mill sites had a great deal to do with the early settlement patterns since the mill was the only source of power for grinding grain and sawing lumber. (Story of Hardin County.)

(5) In 1869, Samuel Fossler erected a three story flouring mill at Eagle City. The site for the mill was purchased from Jacob Kidwilder. Kidwilder had erected a saw mill here which was no longer in use because the dam had been washed out. (Story of Hardin County.)

(6) " The rough timberland between Iowa Falls and Steamboat Rock was a favorite refuge for the horse thieves and counterfeiters. As early as July 4, 1857, the Hardin County Mutual Protection Society was formed to rid the country of these desperadoes, but the climax of outlawry occured in 1885, when two men were lynched at Eldora." (Iowa: The Rivers of Her Valleys. Petersen, William J.)

(7) Stagecoach roads can be spotted on the east side of the river and a stagecoach stop located in section 2 of Jackson township still remains as a historic link with the past. (Personal interview with Duane Wilson and Homer Calkins, conservation officer and executive secretary respectively, of Hardin County.)

land use

The Iowa River corridor between Alden and Union covers approximately forty five river miles. The majority of the land use occuring in this river corridor is agriculturally oriented. Much of the flood plain is utilized for the production of agricultural crops and also for the grazing of beef.

This section of the Iowa River is classified as a non-meandered stream. The legal interpretation of the non-meandered stream gives the state ownership of the water and private landowners in turn own the river bottom. Thus, landowners are allowed to fence off their portion of the river. This, of course, is very desirable to cattle growers as it allows them to use the river as a water source for their cattle. The flood plain south of Iowa Falls to Union is also used for sand and gravel operations with the majority of these operations occuring on the floodplain between Eldora and Union. Another industry occuring on the floodplain south of Iowa Falls is a stave mill, where oak trees are cut for the production of barrel staves.

Between Alden and Iowa Falls several large limestone Quar-

ries are in operation. This is a major industry of the study area.

Slopes along the river which are too steep for crop production are used for grazing. Some of the slopes have been cleared of timber to allow a better growth of grass, but the majority of the slopes still remain heavily wooded.

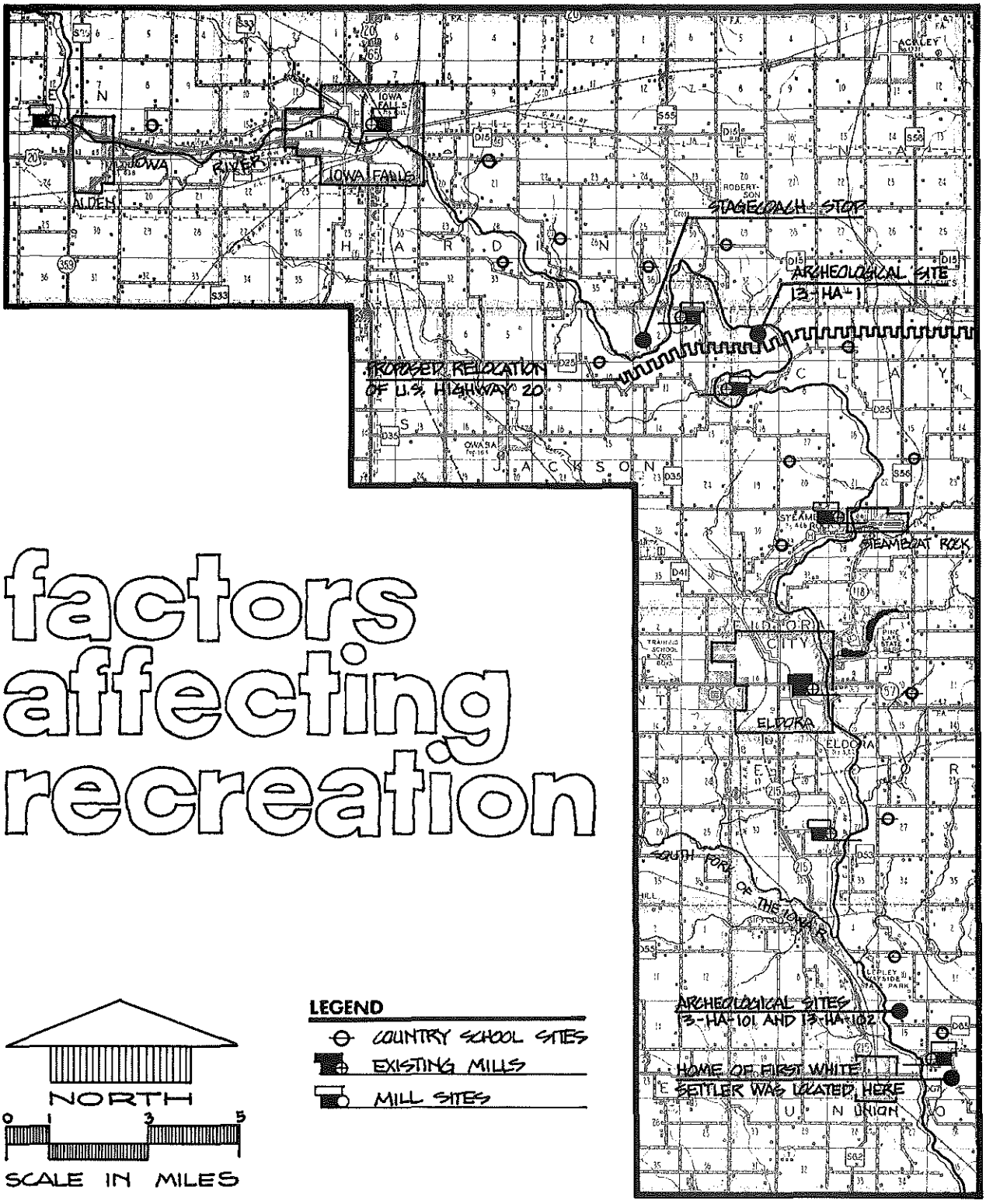
The uplands occuring adjacent to the corridor are almost exclusively used for crop production.

A small percentage of the corridor is owned by public and private groups for conservation and recreation purposes. Generally, these areas include wooded slopes and access to the river.

The river is also bounded on one or both sides by four communities in the study area. Alden encloses the river on both sides for a quarter of a mile. With the help of a small dam the people of Alden enjoy boating and water skiing. Iowa Falls bounds the river on both sides for approximately two and one half miles. Here, a 17 foot dam provides swimming, power boating, and water skiing. This area is used by the people of Iowa Falls as well as the citizens from surrounding areas. Steamboat Rock also lies adjacent to the river, and likewise, has a low-head dam creating a conservation pool deep enough to allow power boating. The Iowa River skirts the edge of Eldora for approximately two miles with the residents of Eldora utilizing the wooded slopes and upland for their homes. Union, the remaining community of the study area, lies approximately one mile west of the river on a terrace overlooking the Iowa River flood plain.

population

An examination of the population projections of Dr. Jon Doerflinger indicated that the population of Hardin County is projected to decrease from 22,533 in 1960, to 21,548 in 1975. The 1960 population of the six adjacent counties and Hardin County was 176,947. Doerflinger's projections indicate the 1975 population for this same area to be 187,950. The majority of the people in these adjoining counties can easily travel to the Iowa River in one hour. Probably the most significant population influence of the study area is the Waterloo Metropolitan area which is only slightly more than an hour drive away. Black Hawk County, in which this metropolitan area is located, had a 1960 population of 122,482 and is projected to increase to 164,907 by 1975. The total projected increase of Hardin, Black Hawk, and the adjacent counties is 53,428 people, which could give this area of influence



factors affecting recreation

NORTH

0 1 3 5

SCALE IN MILES

LEGEND

- COUNTRY SCHOOL SITES
- EXISTING MILLS
- MILL SITES

a total of 352,857 in 1975, as compared to 300,429 in 1960. (Iowa's Population: recent trends, future prospects.)

transportation

The existing primary highways in Hardin County consist of U.S. Highways 20 and 65, and Iowa Highways 57, 359, 215, and 299. Highway 65 passes through Iowa Falls and is the only continuous route serving north and south traffic. It links Iowa Falls with Des Moines, seventy five miles to the south, and Mason City, sixty five miles to the north. The majority of the east-west traffic is carried by U.S. Highway 20, which parallels the Iowa River between Alden and Iowa Falls and links Webster City and Fort Dodge on the west and Waterloo on the east, with the study area. Highway 20 is proposed to be relocated five miles south of Iowa Falls, with projected completion to be in 1975. This relocation will cross the Iowa River in the vicinity of Hardin City. Interstate 35, which carries large volumes of north-south traffic, lies eighteen miles west of Iowa Falls. State Highways 175, and 57 serve as secondary east-west intra-county traffic, while the other state highways are no more than spur roads providing access from the smaller communities to the principal highways. The majority of the county roads are improved with paved or graveled surfaces. The county road system is basically a grid pattern with the exception of those roads which parallel the river or wind down to a bridge crossing.

IMPLICATIONS OF FACTORS AFFECTING RECREATION

What implications do geology, soils, vegetation, water, fish and wildlife, archeology and history, land use, population, and transportation have to recreation? In approaching the plan, these factors have been examined and must be analyzed in terms of the short and long range implications they may have on recreation. It is through an analysis of the land, of the people that live on it, their activities and their needs, that we can begin to arrive at a plan which will harmonize with the environment and yet satisfy these recreational needs.

What are the alternatives in satisfying the apparent insatiable need to recreate?

(1) We can continue to create places to recreate as need demands with no advance planning, watching existing recreational resources vanish in the interim period.

(2) We can rely upon the private sector to meet these future demands.

(3) We can plan for the future, protecting those resources which are available for recreation, utilizing them in a sympathetic manner as need demands.

A combination of these probably will give us the best solution. First, it is necessary to exercise certain controls and policies in protecting those resources which are valuable for recreation. At this time public aquisition is the only measure we can utilize to ensure that recreational resources such as timber, slope, wildlife, habitat, etc., will be cared for in the public's interest. Secondly, when these areas are developed for recreational uses, regard must be given to these resources. Third, recreation can most logically be developed by private enterprises with the guidance of government controls.

Geology..... How does geology affect recreation? By having a broad understanding of the forces that formed the landscape, we may be more sensitive to the land in imposing different types of land uses upon it. Looking at this particular study area it is obvious that geology is one of the more dominant natural elements that make this portion of the Iowa River unique. It is imperative, then, that development in the corridor respects the geology in order that this character be maintained.

The general visual diversity of the geology of the area is great enough to interest the observer and challenge his intellect to seek answers of why things are as they are. Recreation may take many forms and it is important not to overlook the potential of recreation as an educational experience, or perhaps, more aptly put; " a mind-expanding experience."

Vegetation..... An examination of the vegetation inventory reveals that the existing timber is only a fraction of the original forest cover. Much of the timber was cut for fuel and cleared for crop production and grazing. Timber is no longer utilized for fuel. However, it is still being cleared everyday to make room for more crop production and grazing. Much of the more fertile upland lies fallow in government programs discouraging crop production. Herein lies a paradox; on the one hand we discourage the production on fertile land, and on the other hand we clear the already scarce timber resources to make room for more crop production.

Timber is one of our most valuable recreation resources, particularly in Iowa, where it is a scarce resource. It

provides a visual amenity that people seek in pursuit of a recreational experience. Yet daily, herbicides and bulldozers are being utilized to destroy it, and in the meantime little is being done to replenish it.

Water and Air Pollution..... Some of our nation's rivers have become open sewers used as vehicles for disposal of human, animal, and industrial wastes. One of the most urgent political issues today is controlling air pollution and water pollution. A strong policy regarding waste disposal must be enforced if water quality is to be sufficient for fish production and recreation in the Iowa River Corridor. Air pollution from the limestone quarries presents a serious problem in the area between Alden and Iowa Falls. These industries pollute the air with a fine dust which is deposited on every object in the area. Visual evidence of water pollution is more difficult to obtain because most of the wastes enter the river below the surface of the water. Thus, it becomes most difficult to identify the source. During a rapid snow melt or a heavy rain there is a heavy runoff of water carrying fertilizer and organic materials. The fertilizer and organic materials cause a severe reduction of oxygen which often results in fish kills. This is particularly a problem when the river is covered with ice, which allows little chance for re-oxygenation to occur.

Fish and Wildlife..... What happened to the buffalo, elk, bear, and wolves that were present a century ago? Developments by man destroyed natural habitat and replaced it with agricultural crops for the production of domestic animals, thus, destroying the delicate balance that existed a century ago. It is not unrealistic to assume that a similar disappearance of wildlife will occur in the near future unless a greater regard for these delicate systems is shown immediately.

Likewise, the water quality of the river must be improved by checking pollution if we disire larger fish populations in our streams. If pollution runs unchecked there may be no fish at all.

Archeological and Historic.... Archeologic and historic assets have great potential as recreational resources. These assets are in most cases an untapped recreational resource, particularly in the local area.

On examination of archeologic and historic elements of the study area, one becomes aware that most of the visual links with the past are gone. Few country schools still exist and few signs of the once active mills remain. Pock marks on Indian burial mounds of site 13-HA-1 seem to indicate that they have been robbed by amateur archeologists. The remaining elements of historic inter-

est must be protected now if we wish to maintain a link for educational purposes for the future generations.

Land Use..... Safeguards against the destruction of those resources which are a benefit to the recreation experience must be implemented if these resources are to be maintained and improved. The woods are in danger from the stave mill. The banks and water quality of the river are in danger from livestock and industry. The floodplain and slopes are in danger from livestock and poor farming practices.

Population..... While the projected population of the study area is not expected to increase significantly, the total of the adjacent areas is expected to increase significantly. Thus, the recreational needs and demands of many more people may have to be met.

Transportation..... Since most people must travel to their place of recreation, mobility becomes very important. In examining the implications of population, it was concluded that the immediate study area was not projected to increase. However, we might assume that in the future, even without a population growth, demand for recreation facilities will increase. Nationwide projections indicate the average person will have more leisure time and more disposable income. Thus, he will have more time to seek recreational experiences as well as more money to spend on them. Probably, the most significant affect of transportation on recreation in the corridor is the increasing ease of mobility to the study area by residents in adjoining counties, and even transient travelers from other states. With the relocation of Highwas 20, many more people will come in direct contact visually with the most scenic portion of the study area. Also, it may shorten the time-distance from the Waterloo Metropolitan area.

This has a significant bearing since the population of Waterloo is projected to increase. Interstate 35 already has improved access to the area for people living some distance to the south, and will likewise give people easier access from the north on its completion.

EXISTING RECREATION FACILITIES

Today, recreation pressure on the Iowa River is relatively light. The corridor is used primarily by pleasure drivers, picnickers, fishermen, and hunters. Pine Lake State Recreation Area is a well developed state recreation area in the corridor that attracts heavy use. It is one of the most heavily used recreation areas in the state, with 245,816 visitors in 1963. (Parks. State

Conservation Commission.) Recreation activities available there include swimming, boating, fishing, camping, hiking, and picnicking.

On a weekend it is not unusual to see many pleasure drivers on the county roads in the corridor. This is a popular activity and anyone with a car can participate.

Hunting is confined primarily to squirrel and deer in the fall and rabbit in the winter. Squirrel hunting in the corridor is excellent on the wooded slopes. Deer hunting is considered fair. The majority of hunting takes place on private property. There are, however, several public hunting areas in the corridor.

Fishing pressure on the river is relatively light and access is generally confined to areas adjacent to county bridges and existing parks.

Picnicking is the recreation opportunity most often offered in the existing parks in the corridor, with facilities being provided in state, county, and municipal parks.

As evidenced by several saddle clubs, horseback riding is popular along the river, but is limited to small interest groups.

The river receives very little use by canoers even though traditional canoe races are held on the river annually. The reason for the light use is due to the fact that canoes cannot be rented in the corridor. Therefore, the only canoeing use on the river is by those individuals owning their own canoes and willing to transport them to the river.

INVENTORY
OF
EXISTING RECREATION FACILITIES IN STUDY AREA

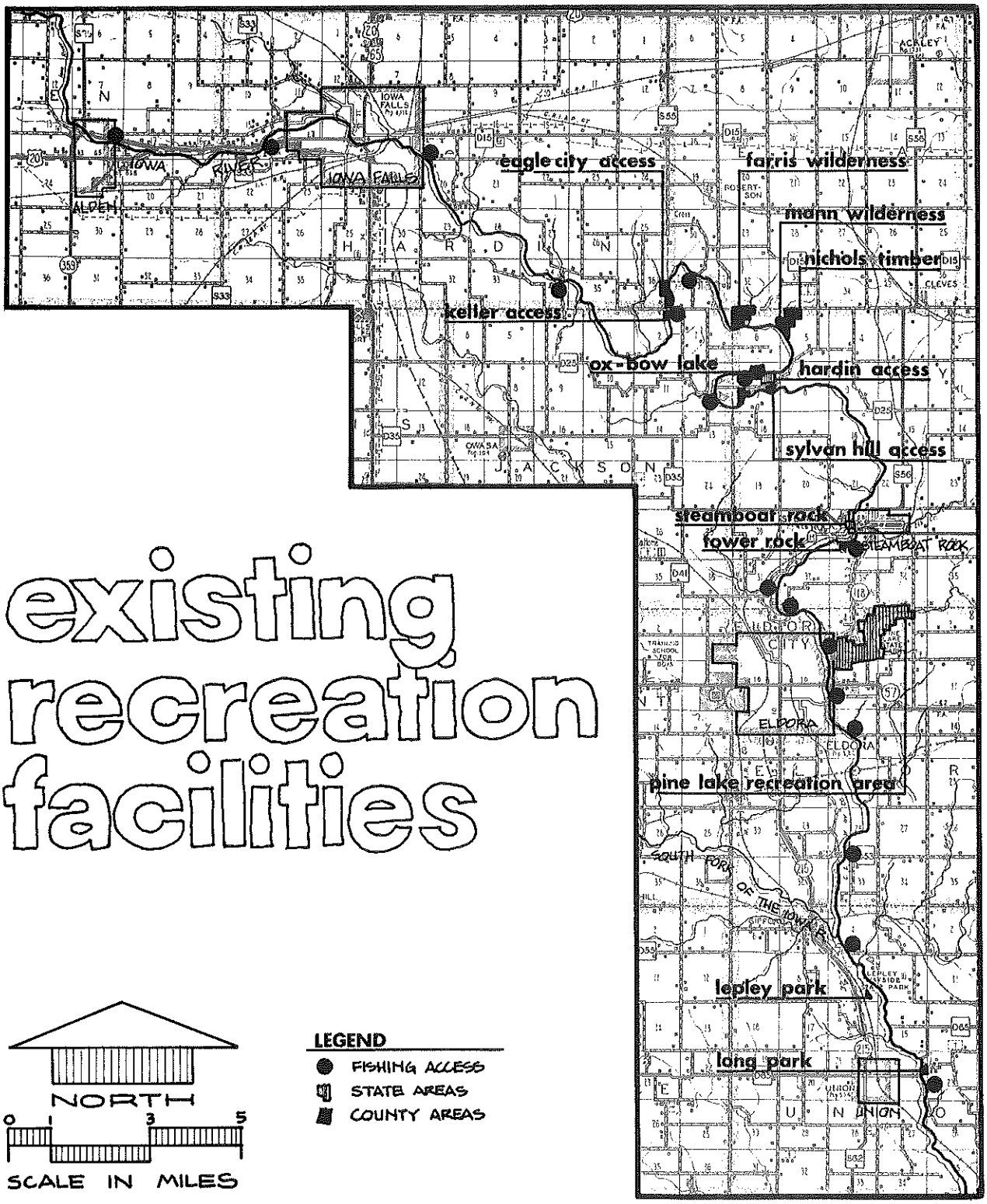
B - Boating
C - Camping
F - Fishing
H - Hunting
HT- Hiking Trails
OC- Outdoor Classroom
P - Picnic
T - Toilet
U - Unimproved
W - Water

OWNERSHIP	NAME	LOCATION & USE	SIZE
State	Hardin County Access	5 mi. NW of Steamboat Rock river access	25 acres
State	Pine Lake State Recreation Area	E edge of Eldora HT-W-H-B-T-C-F-P	541 acres
State	Steamboat Rock State Recreation Area	W edge of Steamboat Rock river access	5 acres
County	Steamboat Rock Tower Rock	S edge of Steamboat Rock C-F-P-T-B	23 acres
County	Eagle City Access	8 mi. SE of Iowa Falls B-C-F-HT-P-T	43 acres
County	Keller River Access	8 mi. SE of Iowa Falls F-U	7 acres
County	Sylvan Hill Access	5 mi. NW of Steamboat Rock P-T	22 acres
County	Mann Wilderness Area	6 mi. N of Steamboat Rock F-H	106 acres
County	Nichols Timber Reserve	6 mi. N of Steamboat Rock H-U-OC	35 acres
County	Ox-Bow Lake	6 mi. NW of Steamboat Rock H-U	24 acres

County	Faris Wilderness	4 mi. N, 2 mi. W of Steamboat Rock U-C-F-H	205	acres
County	Alden River Access	N end of dam in Alden P-F	1	acre
County	Ira Nichols Wildflower and Bird Refuge	NW section of Iowa Falls HT-OC-P	16	acres
County	Lepley Park	1 mi. N of Union C-P-T-W	9	acres
County	Long Memorial Park	1 mi. E of Union B-C-F-P-T	7	acres
County	Rendering Plant Nat'l By Products Inc.	S edge of Iowa Falls U	7	acres
		TOTAL	1076	acres

PRIVATE RECREATION FACILITIES

Pine Lake Wildlife Club	Eldora
Pine Lake Country Club	Eldora
Steamboat Rock Rifle Club	Steamboat Rock
Iowa Conservation and Improvement Association	Steamboat Rock
Meadow Hills Golf Course	Iowa Falls
Iowa Falls Country Club	Iowa Falls
Iowa Falls Rifle Club	Iowa Falls
Fritz Landing	Iowa Falls
Iowa Falls Boat Club	Iowa Falls
Alden Boat Club	Alden
Tonto Leo	Steamboat Rock
Pine Lake Saddle Club	Steamboat Rock
Scenic City Saddle Club	Steamboat Rock
Quaker Heights Camp	Iowa Falls
Pine Lake Baptist Church Camp	Eldora
Church of the Brethren Camp	Eldora
Corwin Hadley Ski Lift	Eldora
Earl Thomas Ski Lift	Steamboat Rock



existing recreation facilities

SECTION THREE VISUAL ANALYSIS

The visual impact of the study area is an important design determinant. The visual landscape of the study area is the result of the interaction of natural systems over thousands of years coupled with approximately one hundred years of human impact. During the course of this study, the river corridor was surveyed visually by car and by walking; the river itself was surveyed by canoe. For purposes of clarity the visual analysis is in two separate parts, the river and the river corridor.

THE RIVER

CANOE TRIP FROM ALDEN TO IOWA FALLS.....

This trip started just below the Alden dam. The river seemed very small in scale and the stream was relatively narrow here with the walls from 6-10 feet high.

It was evident from the slag piles and the limestone dust in the air, that limestone quarries are a dominant part of the river landscape in this area.

From traffic and quarry noises it is obvious to the canoer that this is no wilderness area. Barbed wire fences were encountered along the way; however, the river was high enough to float over them. Timber along this stretch of the river occurs in a relatively narrow band on the banks.

Approximately two miles west of Iowa Falls there is a series of big riffles. These must be portaged except when the water level is extremely high. These large riffles mark the top of the pool formed by the Iowa Falls Dam.

From here the current became much more lethargic; the river is wider and is contained by limestone bluffs on both sides averaging 30 feet in height.

Within the corporate limits of Iowa Falls the river is a highly intense recreational area. Boating, water skiing, and fishing are popular activities.

There is a small tributary entering the pool from the north. This tributary also has limestone walls, however, smaller in scale. Back in the main channel the limestone banks are capped with woods and homes which seemed to fit quite well compared to most river developments in Central Iowa.

CANOE TRIP FROM IOWA FALLS TO EAGLE CITY.....

Canoeing downstream from the Iowa Falls Dam, the river changed character abruptly. The gradient again became quite steep. Limestone walls were still present, but not on both sides. Within half a mile the river began to meander and split to several courses. There are several small islands and the current is relatively fast here. There were many downed trees and a portage over the downed trees became necessary. From here the river was soon back to one main channel. Riffles occured frequently, but created no problem.

About two and a half miles downstream from the dam the river split again forming several large islands. Several deer were sighted on one of the islands during a stop to survey the course to follow. This area seemed very remote and appeared to have abundant wildlife.

Traveling down the river again, we rounded a bend and sighted a barbed wire fence. Unable to avoid the fence in time, we became entangled in it and our canoe was capsized. After salvaging what we could of our belongings and cleansing our wounds, we once again proceeded downstream.

Following the accident, it was difficult to relax and let one's mind wander to the wooded slopes or the sounds familiar only to the river. Concentration was bent on search for more fences.

A stop was made on a low terrace about three miles downstream from the dam. The area seemed an obvious place to stop. The river was fairly quiet here and limestone bluffs 15 to 20 feet in height again appeared. Gentle wooded slopes extended from the limestone walls nearly one half mile back from the river. The trees in the woods were extremely mature. At the time it seemed to be a good area for camping and an exciting place to hike. Approximately twenty squirrels were sighted in a short hike up the slope.

Traveling downstream again the walls of the river changed from mud banks and occasional limestone walls to much higher wooded bluffs with terraces sometimes occuring on one side of the river.

This trip ended at a county park near Eagle City. Approaching the Eagle City bridge we noticed a fairly large riffle. With some difficulty, we managed to cross it and land the canoe at the park. We learned later that this riffle was created by the remnants of an old dam once utilized by the mill.

CANOE TRIP FROM STEAMBOAT ROCK TO ELDORA.....

Immediately below the dam the river bottom was strewn with fairly large boulders. Soon the river changed character again as sandstone bluffs flanked the left side of the river. A high sandstone cliff appeared, much different than the limestone walls near Alden and Iowa Falls. The river is paralleled by a terrace with sandstone bluffs back of it. The feeling of enclosure was not as dominant here as on the other stretches of the river. Agricultural land and pastures could be frequently observed on the floodplain. White birches frequently reached out over the river and occasionally a native white pine could be spotted high on the sandstone bluffs. White birch are the dominant trees on this sandstone bluff. The bluff reached well over 200 feet above the water's surface. Riffles occured at occasional sharp bends in the river, but presented no problem. In several places along this stretch of the river cattle had created an erosion problem on the river banks.

Three other canoes were observed on this stretch of the river. Conversation with the canoers revealed that they traveled from Davenport, Iowa, specifically to canoe the Iowa River and to camp at Pine Lake State Recreation Area.

We soon arrived at Pine Lake State Recreation Area where camping facilities are available along the river.

THE RIVER CORRIDOR

Traveling by car, the corridor was visually as diverse as the river that formed it. From Alden to Union, human impact was quite apparent. The banks of the river are dotted with limestone quarries and the river was paralleled closely by Highway 20. Trucks and machinery appeared quite small in the large openings created at the quarries. A narrow strip of timber along the river's banks blocks the river from the observer's view. Bluffs were not apparent until one reached Iowa Falls.

Below Iowa Falls the corridor took on a rural character. Its timbered bluffs could be seen stretching for miles contrasting with the agriculture land that dominates the upland. In places the floodplain was apparent, in others it disappeared to a narrow deep valley. Human impact was apparent where timbered slopes had been cleared for farming.

High on the narrow ridge above Hardin City, a spectacular view opened to the valley floor. The roads between Iowa Falls and Steamboat Rock were interesting and it was obvious that they were forced to respect the rugged topography. The roads in this portion of the study area are high on the bluffs above the river and generally only

reached the floodplain or the river's edge at a bridge crossing.

Between Steamboat Rock and Eldora the area seemed to be more heavily populated and more heavily traveled. Here a road winds along the bottom of the bluffs adjacent to the river. This section of the corridor did not seem as visually exciting as that portion of the corridor north of Steamboat Rock.

On the east edge of Eldora a major highway crosses the river and Pine Lake State Recreation Area was only a short distance away. From the bridge an old mill could be seen perched high above the river on concrete footings.

Between Eldora and Union the river corridor seemed to change character. The slopes seemed less steep and less wooded. The floodplain widened and several gravel operations could be observed. Several fishermen were observed fishing from the bank where the road paralleled the river. Some fishing activity was also noticed in the gravel pits adjacent to the river. At Long Park, east of Union, a limestone spillway and remnants of an old mill were observed.

SECTION FOUR: POTENTIAL FOR RECREATION

" Let us protect the free channel before our material enterprises preempt it, or before we build so affectionately, so densely upon its banks that we smother the very charms of seclusion and natural beauty that we seek. "
(quote by John Graves from Wild Rivers. p.13.)

The potential for recreation in the study area may be realized only when our regard for our natural resources becomes as great as our esteem for the dollar. A strong conservation policy regarding our natural resources must be established if we wish to maintain these resources for ourselves and our children.

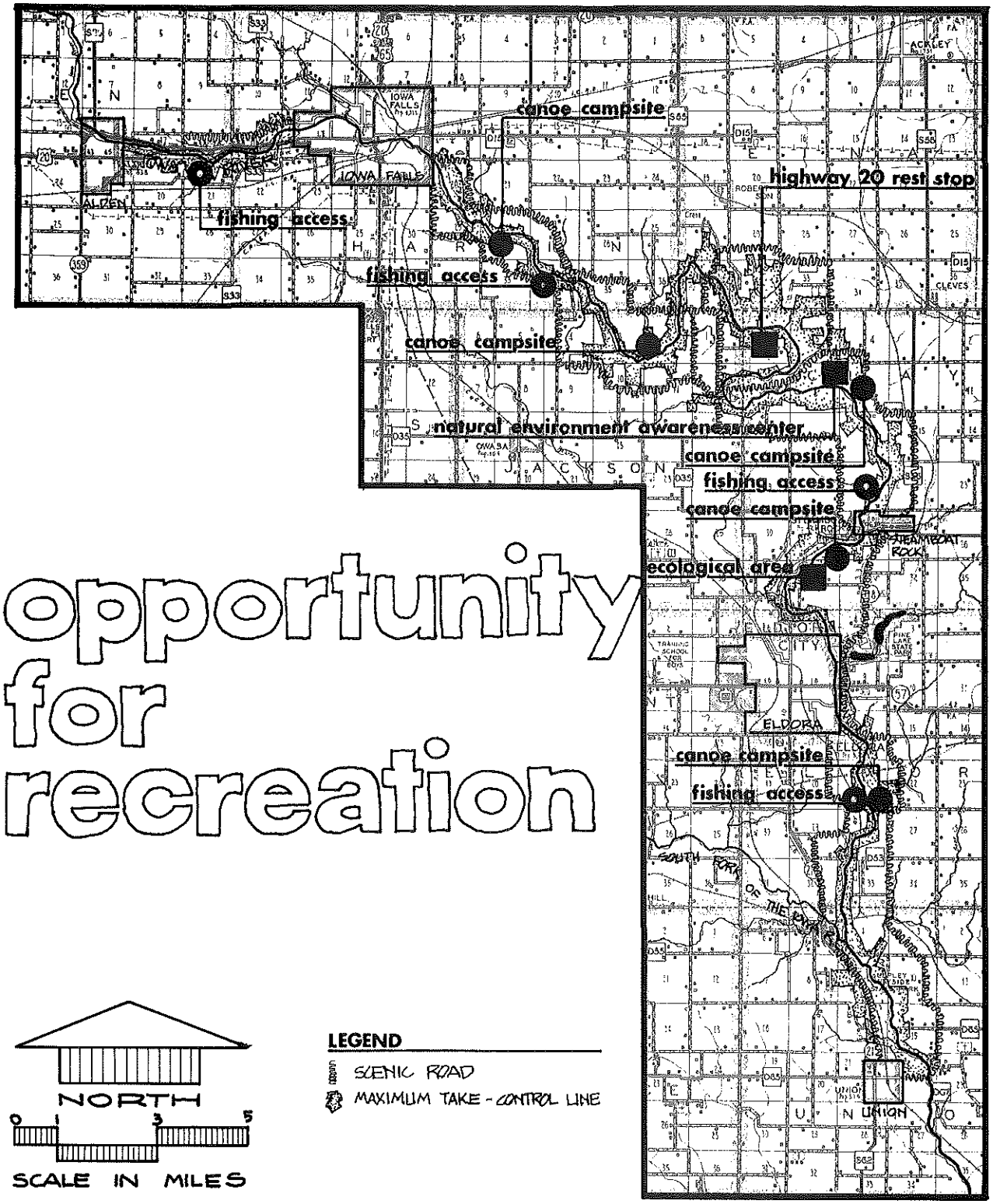
Today, industrial pollutants, city sewage, and untreated farm lot wastes too often reduce water quality, making the waters unavailable for drinking or recreation and offensive to the view and smell.

Presently, the demand for summer cottages along the river is on the increase. Uncontrolled development of summer cottages by speculators could ruin the scenic and recreational resources of the Iowa River Corridor.

Acquisition or protection of the river corridor and the existing natural and man-made amenities that go with it is stronger than merely preservation of the past or the purchase of a nice place to recreate, but it is also a step towards improving our total environment.

The Iowa River Corridor from Alden to Union, Iowa, is unique among Central Iowa's river valleys. If this corridor is to maintain this unique quality and yet realize its recreation potential, recreation areas must be sensitively developed to reinforce those natural resources that give this corridor a special identity. Since the river corridor offers unique geologic, topographic, historic and visual diversity, there exists the opportunity to make each recreational experience in the corridor something special.

SECTION FIVE: THE PLAN....OPPORTUNITIES FOR DEVELOPING THE RECREATIONAL POTENTIAL OF THE STUDY AREA



opportunity for recreation

NORTH

0 1 3 5

SCALE IN MILES

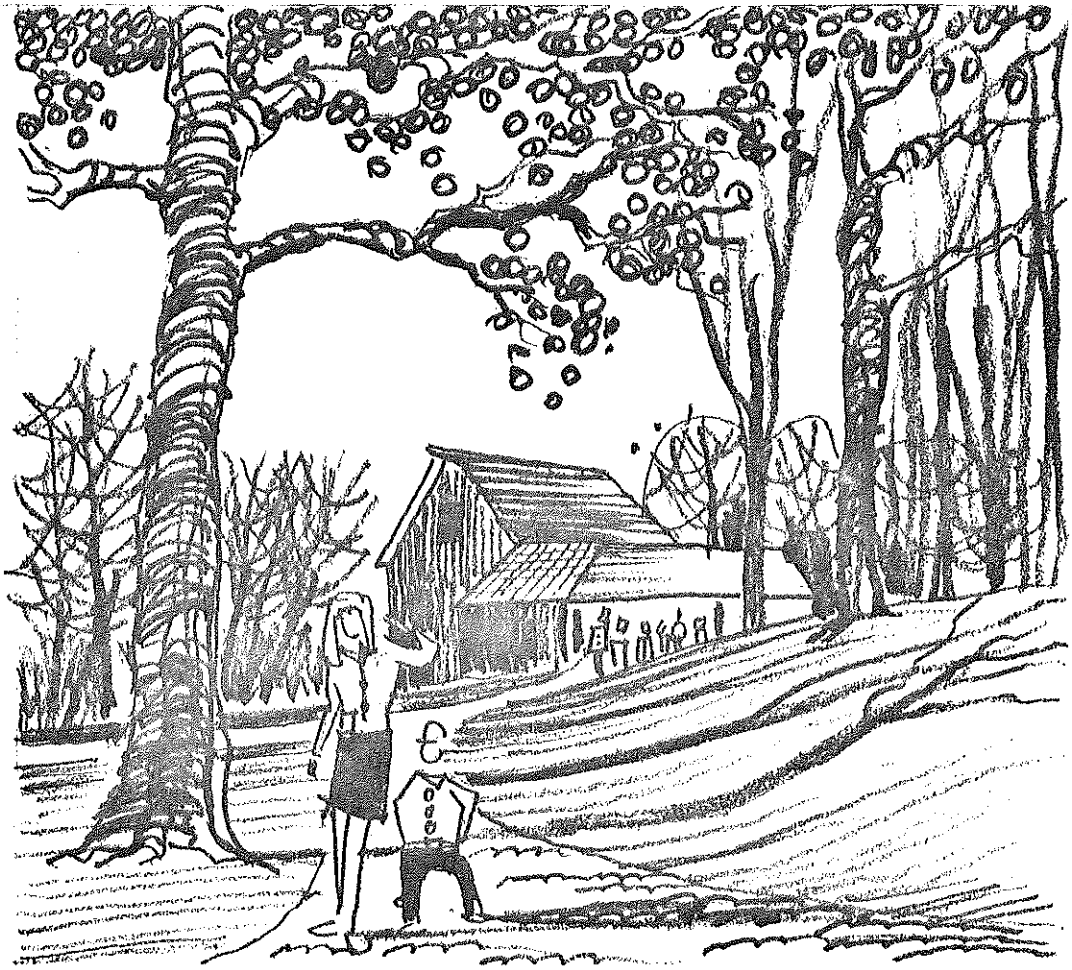
LEGEND

- SCENIC ROAD
- MAXIMUM TAKE - CONTROL LINE

OPPORTUNITIES FOR DEVELOPMENT

NATURAL ENVIRONMENT AWARENESS CENTER

It is recommended that a park designed specifically for children and their parents be developed. The concept is to create a place where children, as well as adults, can learn more about their environment. Opportunities here would include nature trails which would describe local geology, flora, and wildlife. It would also be desirable to incorporate information about water pollution, air pollution, erosion, and what role the natural elements play in maintaining a healthy environment. It would be



desirable to locate this park facility in a mature woods with access to the river. It may be possible for a historic structure such as an old school, barn or some other structure of historic significance, to be utilized for visual displays of flora, geology, artifacts, small animals and etc. These displays could be designed specifically for children.

This facility would act as an important supplement to both primary and secondary schools in the area. It could be a strong part of natural science courses offered in the area schools, giving the school children the opportunity to relate many things in their course work to an actual experience.

The location for this facility shown on the plan was based on scenic qualities, mature timber, diversity of slopes, relation to population centers, and access to the river. Approximately 50-100 acres will be needed to realize the potential of this area. This location is preliminary and it is hoped that further investigation will follow as more detailed plans for this awareness center are developed.

FISHING ACCESS AREAS

Present fishing access points are indicated on the recreation inventory map. The majority of these accesses are confined to county bridges and existing parks. There are also a few places where private landowners allow access. It is suggested that the bridge access sites be improved to allow for parking and a small area for camping and a firepit for cooking. It is also recommended that additional access points be acquired. These proposed accesses are located in more remote areas which receive very little fishing pressures and offer a more exciting surrounding for the fisherman. Vehicular access to these

access points should be within an eighth of a mile. Time spent in the out of doors and relaxation are the items most sought by fishermen, and when fish are caught this adds to the overall activity of fishing.

Provisions for primitive camping as well as fire pits should be provided. The remote site as well as camping provisions would enhance the fishing experience.

UNIQUE ECOLOGICAL AREA

This area comprises the area mentioned in the vegetation inventory as an area of unique ecological significance, where a relatively pure stand of white birch struggles to keep its foothold on the high sandstone bluffs adjacent to the river. The extent of this area is approximately six acres.

It is recommended that this area be purchased because of its uniqueness. It is also recommended that this area be linked by hiking trails to Tower Rock Park and Pine Lake State Recreation Area. This link would allow people from these parks the opportunity for a three to four hour hike. The terrace could be utilized for one portion of the hike while the bluffs could be utilized for the return link.

This area can serve as an outdoor laboratory for area schools as well as Iowa State University, Ellsworth Junior College, and the University of Northern Iowa. The area should be kept in its natural state with only limited access provided.

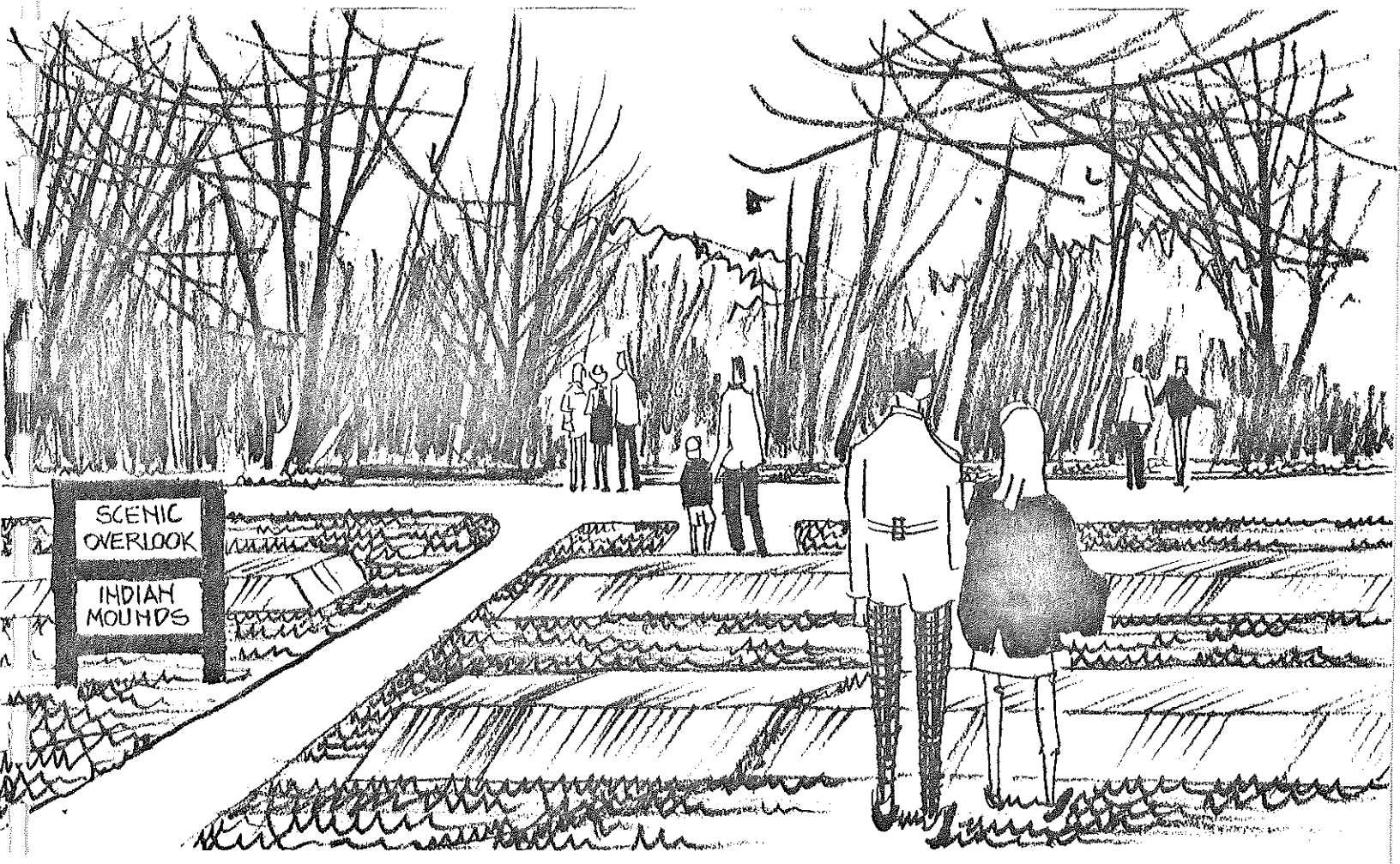
HIGHWAY 20 REST STOP

The opportunity for developing a rest stop, interpretive center, and scenic overlook for new Highway 20 exists in the center of section 6 of Clay township, Hardin County. The area will be located on the bluff overlooking the Iowa River on the north side of the proposed road. It will include restroom facilities, short hiking trails, displays of artifacts, and an interpretive center for the Indian burial mounds.

These mounds cover approximately five acres and must be carefully preserved in this development. It is recommended that an archeologist be consulted to establish the exact extent of the site before development of the rest stop begins.

The area would offer leisurely strolls along the bluff

and a scenic overlook as well as the educational experience provided by the burial mounds.



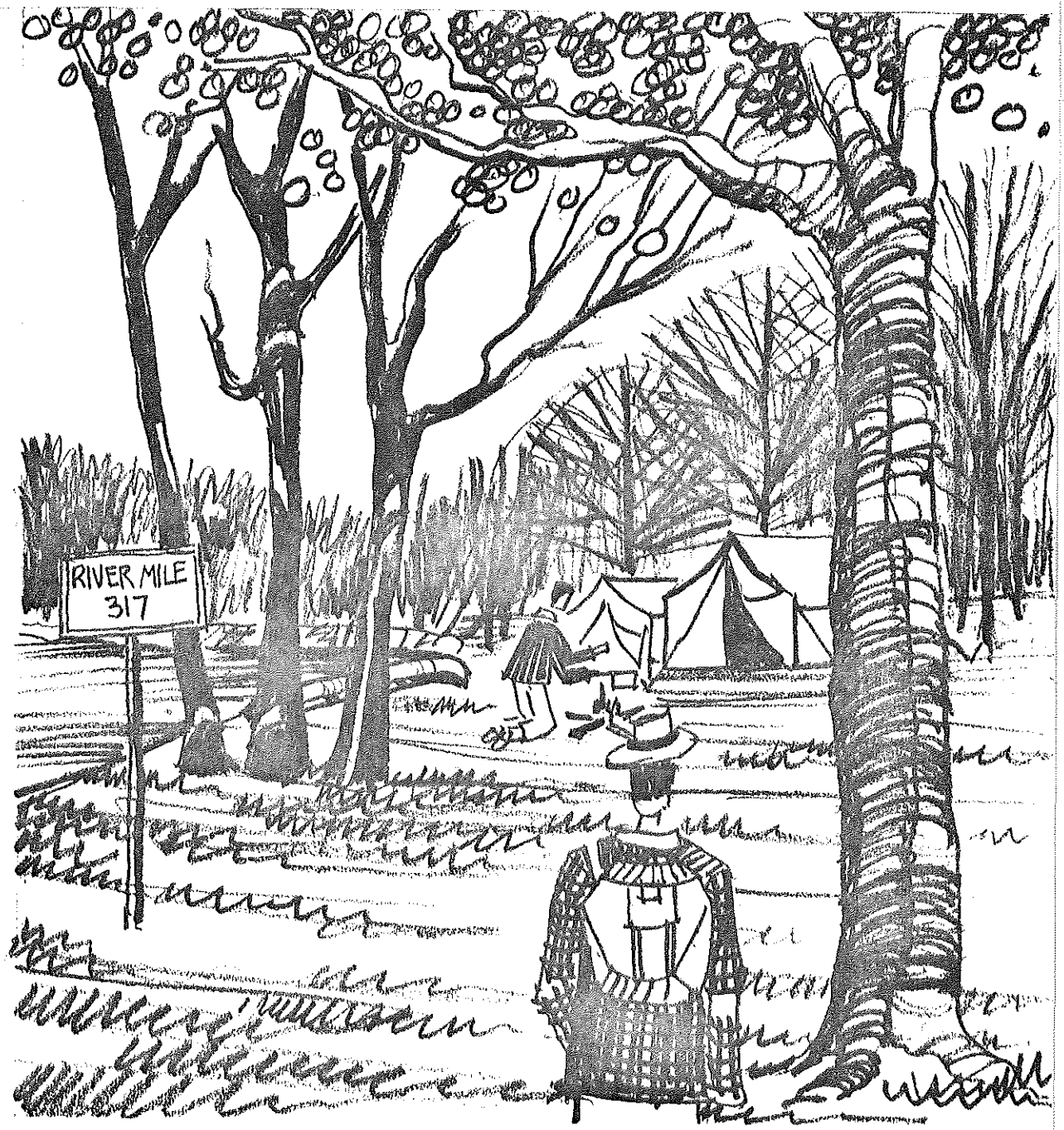
The rest stop could also offer a leisurely stroll along the bluff overlooking the Iowa River Valley.

The resources of this site offer the potential of making the Highway 20 rest stop proposal one of the most exciting in the state.

CANOEING

The potential for canoeing on the Iowa River seems great. The biggest hurdle in establishing canoeing as a major recreational use of the river is providing the general public with a canoe rental and transportation service. This portion of the Iowa River offers diversity in topography, vegetation, wildlife, and geology. The river

also presents numerous riffles which, though small, keep the canoer alert. Canoeing can provide much diversity in recreational activities; fishing, hunting, bird watching, history and nature study all become more exciting with the use of the canoe.



Proposals for developing the canoeing potentials of the corridor are as follows:

(1) A canoe livery must be provided where canoes could be rented by time or trip. The livery should offer a shuttle service and provide equipment and information regarding canoeing in the study area. The canoe livery may be operated by private enterprise or by local or state agencies. It is recommended that the canoe livery be located either in Iowa Falls or at Pine Lake State Recreation Area.

(2) Advertising and promotion is a necessity if canoeing is to become a major recreational use of the river. Promotion of the river as a good canoeing river must reach beyond the immediate study area to larger population centers. Only having a canoeing facility will not create a demand for canoeing; people must be told the facilities and opportunity exist.

(3) It is recommended that a well designed map be developed for canoers to include the corridor between Alden and Union. The map should include locations and types of recreation facilities, dams, communities, barbed wire fences, canoe rest areas, and campsites. Historic points of interest on the river and those only a short hike away, and mile markers should also be included on the map. The map could be incorporated into a booklet that contains information on supplies, description of historic points of interest, description of wildlife, flowers, and trees of the corridor.

(4) Several campsites have been proposed based on the following criteria; good landing points, level timbered area for camping, scenic quality, adjacent slopes and timber for hiking, and canoe travel time. Canoe travel time is based on leisurely travel, which refers to alternate periods of paddling and coasting with occasional stops to stretch and look around. Leisurely canoe travel is equivalent to one and a half miles per hour to as little as one fourth miles per hour. These campsites would be primitive in character and offer:

1. canoe landing area
2. a level site for tents
3. a supply of firewood
4. a firepit

(5) River markers should be provided. These should include only mileage signs indicating the distance from the mouth of the river. The signs should be relatively small and in character with the surroundings. Campsites and points of interest could be found by relating the points and mileage signs on the map with the mileage signs on the river. The mileage signs should be located consistently and also where they will be safe from flood damage.

(6) A minimum vehicular road should lead to all campsites from the nearest road for maintenance or for an emergency.

SCENIC ROAD

It is recommended that a scenic road be developed and promoted along the Iowa River Corridor. The scenic drive as indicated on the plan would utilize existing county roads. The road should be well marked, and points of interest along the route should be identified and explained. Existing parks as well as proposed facilities and river access points would occur along this road if possible. Surfacing may be desirable to provide a dust free road as use demands.

INFORMATION CENTER

People seek new and different recreational experiences and many times what they are after exists but they are unaware of it.

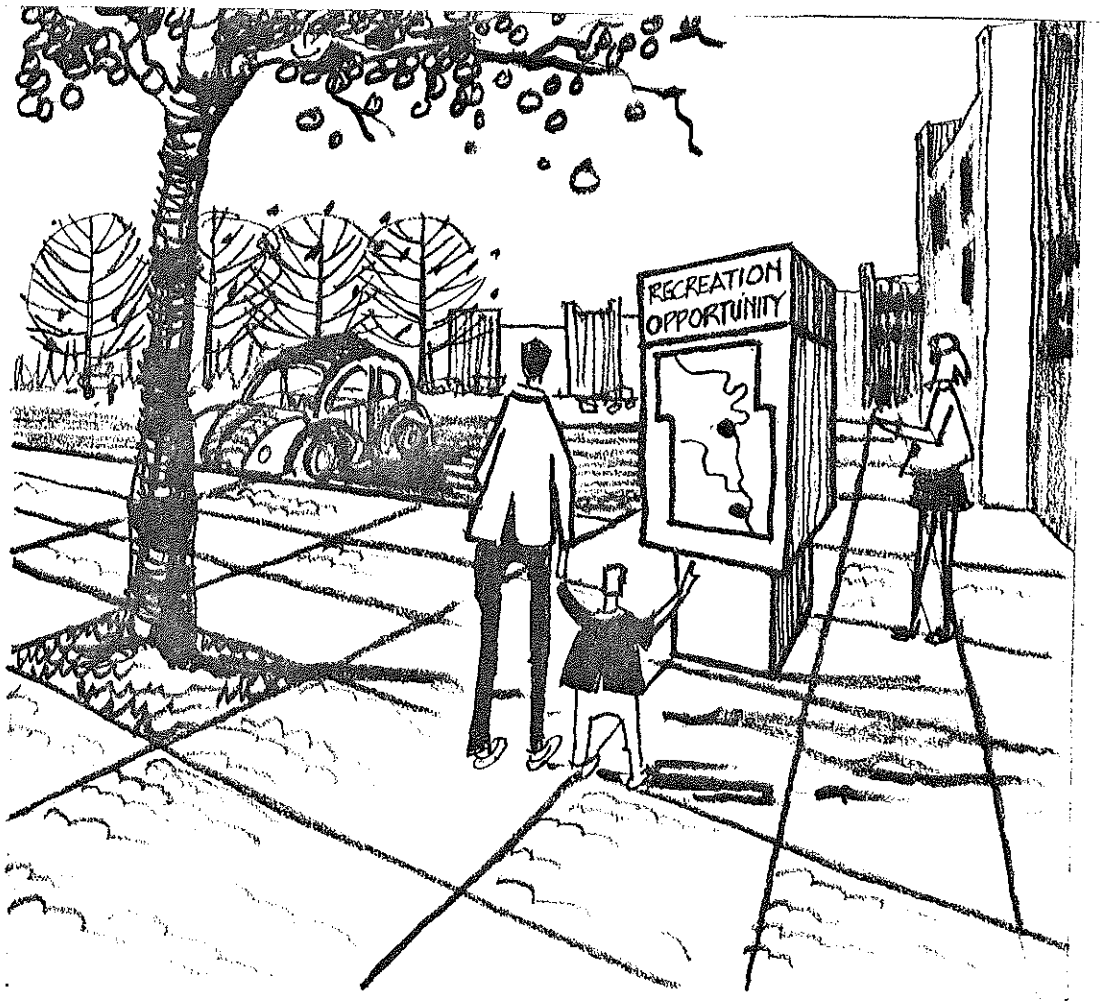
It is recommended that several information centers be located in the study area. These information centers would display maps showing the recreational potential available in the study area and give a detailed description of the facilities available. These information centers should be a joint effort by both public and private facilities. It is recommended that these centers be located at the following locations:

(1) Near the major road in Pine Lake State Recreation Area.

(2) At the proposed Highway 20 rest stop.

(3) Near the entrance of Steamboat Rock River Access.

(4) At least one in the business district of each community in the study area.



Each facility will ensure that the people in the study area are aware of all the recreational opportunities, both public and private, in the study area. It is important for local residents to realize that recreation can stimulate economic growth in many businesses in the area.

HISTORIC PRESERVATION

It is suggested that the mill at Eldora be acquired and improved. It is the only mill still standing in the study area. This mill is in relatively good condition, and would not require a great amount of money to recondition. This mill is a dominant feature in the landscape and can be seen quite easily from the Highway 57 bridge which crosses the river east of Eldora. A visit to the mill would offer an additional experience to the many visitors of the Pine Lake State Recreation Area.

It is hoped that additional research concerning the history of the study area will be conducted by concerned residents. The remnants of the old mill near Union offers an interesting link with the past. Perhaps local organizations in the study area could sponsor a renovation project on a historic structure such as this.

As mentioned in the inventory, old stage trails can occasionally be seen along the river. Perhaps these trails can be more definitely located and utilized as saddle and hiking trails.

MAXIMUM TAKE - CONTROL LINE

The take-control line is delineated on the plan. The maximum take-control line indicates the amount of land required to ensure protection of the recreation resources of the corridor.

The Iowa River Corridor provides several elements of significant value to conservation and recreation in Central Iowa.

(1) It offers timbered slopes of major scenic significance to Central Iowa.

(2) It offers habitat and a corridor for the movement of wildlife.

(3) It offers the recreational opportunities that occur with a major river. (fishing, boating, etc.)

The takeline is based on present and potential recreational uses, as well as a conservation policy giving high priority to those resources which are unique or rare not only in the region, but also in the state. Certain recreation activities require certain resources. For example, few people pleasure ride because they enjoy bucket seats or the sound of the car engine. Pleasure riding is generally very adventurous in nature, with people seeking a view of that which is new or unique to them. For that matter, hiking, canoeing, or picnicking are not very exciting without the visual amenities provided by timber and slope.

The Iowa River Corridor, as well as most other major stream corridors in the state, offers the diversity of topography, timber, and water that no other place in the state does.

The delineation of the amount of land needed was based on:

(1) Land along the river and the elements on it; trees, buildings, etc., that possess scenic qualities, ie., the areas which provide visual diversity from the surrounding farmland.

(2) Location of unique historical, archeological, ecological, and geological sites.

(3) Wildlife habitats.

(4) Land along the river which is important to control if the quality of the river corridor is to be maintained and improved, ie., the floodplain.

It is proposed that certain controls regarding the use of this land be acquired in total by government agency or agencies. Lands immediately adjacent to both sides of the river should be acquired in fee-simple title. The width of this strip of land could vary with topography, timber, ownership, land use, etc.; but ideally, if this strip including the river could be 200 to 400 feet wide, it would provide excellent control and use potential. As mentioned earlier, in the section on land use, this portion of the river is classified as a non-meandered stream. This classification gives the state ownership of only the water in the river, and therefore, leaves a question as to the legality of public access on the river. Most landowners are sympathetic to public use of the river, however, a few are not. Acquisition of this strip by fee-simple would guarantee the public access, and would provide reasonable assurance against unwise land use of the banks and river bottom. This strip of land would provide a continuous corridor and could be utilized as a saddle trail and hiking link with existing and proposed recreational facilities along the river.

If possible, the remaining land included by the maximum take-control line should be acquired by methods of less than fee-simple title. In other words, certain rights are purchased. For example, the right that the land be kept in its natural state might be purchased, thus allowing the farmer to continue compatible land uses. Costs of purchasing easements such as this should be considerably less. Presently, however, legislation must be enacted before aquisition of this type can occur.

It is suggested that this take-control line be implemented by acquisition or easement in order that the public can be assured of these resources now and in the future. The intention is not to remove farming and other land uses from the corridor, but rather insuring that slopes and timber are utilized in the public interest. Agricultural management and practices that do not preempt the natural qualities of the river corridor should continue to be allowed. The take-control line delineates the area needed to control the aesthetic quality as well as provide maximum recreation potential for the Iowa River Corridor.

SECTION SIX: IMPLEMENTATION

PRIORITIES FOR ACQUISITION AND DEVELOPMENT

For a plan to become a reality a logical system of priorities that considers needs and fiscal capabilities must be established. Fiscal capabilities are beyond the scope of this report, therefore, priorities are based on needs made apparent by public concern, concern by private interest groups and value judgements regarding the urgency of preserving certain resources.

In arriving at a priority schedule a judgement has been made in an effort to achieve a balance between development of certain facilities needed and lands that should be acquired or preserved before they are destroyed or become prohibitively expensive.

PRIORITIES SCHEDULE

(1) Acquisition of archeological site 13-HA-1 for the development of Highway 20 rest stop, scenic overlook and interpretive center.
A systematic site investigation should be completed by archeologists to determine the exact extent of the site before acquisition is made.
Acquisition should be coordinated with the State Conservation Commission and the State Highway Commission.

(2) Acquisition of the unique ecological area south of Steamboat Rock.

(3) Protection by acquisition or easement of archeological sites 13-HA-101 and 13-HA-102.

(4) Acquisition of canoe campsites.
The size of these canoe campsites should be approximately five acres.
The responsibility for acquisition of these sites should be coordinated between state and county agencies.

(5) Preservation of Eldora Mill by acquisition.

(6) Establish information centers.

(7) Development of the canoeing proposal with the canoe livery having the highest priority.

(8) Acquisition of fifty to one hundred acres for the natural environment awareness center.
Responsibility here should lie within the jurisdiction of the county and possibly the state, depending on the extent of the development.

(9) Develop scenic road potential.

(10) Acquisition of fishing accesses.

(11) Development of the natural environment awareness center.

(12) Development of Highway 20 rest stop, scenic overlook and interpretive center.
The priority of the development of this area should remain flexible to allow detailed plans to be developed before construction of the highway begins.

(13) Implement take-control line recommendations.

Further studies in the area should include:

(1) Detailed site plans for major proposals such as Highway 20 rest stop and natural environment awareness center.

(2) A systematic survey should be implemented by archeologists to determine the extent and location of additional archeological sites in the study area.

(3) A detailed survey of all elements in the study area of historic significance to both the residents of the area and the residents of other counties.

(4) A periodic review of the needs and the direction for development in the study area.

RESPONSIBILITIES

Control,protection and preservation of recreational and natural resources is necessary today if we wish to plan wisely the use of our resources for the future. This can be accomplished by public ownership, governmental controls, and through cooperation of private interests and private landowners.

The Gallup Poll recently revealed in a national public opinion poll conducted for the National Wildlife Federation that, " Most Americans are willing to foot the bill to fight the degradation of the nations natural environment." George H. Gallup Jr. stated that three out of four Americans representing all income groups are willing to pay more taxes to improve their natural surroundings, including 63 percent of families earning under $5,000 a year. More than 85 percent of the people Gallup surveyed said they are of concern about the state of the environment and 51 percent expressed " deep concern " about air pollution, soil erosion, and wildlife destruction.

Although the majority of the United States population is composed of city dwellers, only 6 percent of those they surveyed said they actually prefer to live in a large city.

Three out of four surveyed said they think more lands should be set aside for conservation purposes. (Des Moines Tribune. March 19, 1969.)

If the recreation potential of the study area is to be realized, all governmental agencies must cooperate in coordinating their various responsibilities. Private recreation facilities must be consistent with the ultimate goals set forth in the plan.

Public and private sectors have certain responsibilities. The private sector consists of landowners, interest groups, individuals, and private enterprise. Their sector's responsibility is paramount. It is not only their right but also their responsibility to voice their opinions to the policy makers. As pointed out in the poll most citizens are concerned about the degradation of the environment. Concern is not enough. Pollution, destruction of habitat, etc., is not checked by concern. People must do more than be simply concerned, they must voice their opinions to the policy makers if they expect steps to be taken in alleviating the problems confronting our environment.

The public sector's responsibility is to respond with imaginative laws which reflect the concern of the private sector. The public sector's concern and responsibility is delineated into several public agencies. They all have to cooperate and coordinate among one another if the long range recreation potential is desired.

There is a need for the development of recreation facilities in the study area by both private and public concerns. It is important that these concerns respect one another and work as a team in achieving the recreation and conservation goals of the Iowa River Study.

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